

Abstract of the Disclosure

An improved, temperature-compensated piezoelectric force motor features greater dynamic range and robustness as compared to previous motor designs. By implementing positive and negative expanding elements, the overall motor length is held constant over temperature. A central stretching member removes the PZT element from the load path of the motor when the motor is relaxed, thereby preventing damage to the element during assembly and deployment. When the piezoelectric element is powered, the central structural member also improves the failure strength of the assembly to further increase the robustness of the motor design. The invention finds applicability in various commercial products including, but not limited to, scientific etalons, nanopositioning systems, custom fiber optic assemblies, and custom CCD detectors.